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WATER RESOURCES NEWS

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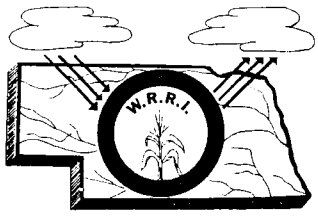

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WATER RESOURCE PROJECTS WILL BE SCRUTINIZED

Hon. James R. Smith, Assistant Secretary of the Interior for Water and Power Development, warned that approval of water projects would become increasingly difficult in the years ahead because of tight Federal budgets, intense competition for public funds, growing concern over the environment, and the necessity to spend huge amounts on urban problems.

"The result is that many searching, and valid, questions have been posed about water resource expenditures and programs," he added. "And these questions must be answered with unassailable evidence and logic bearing on economic, social, environmental, ecological, engineering and other basic considerations. Water resource programs must pass such an 'acid test' if they are to survive and receive the priority they deserve. Those of us in the water resource business are being put to the test. We must prove to our critics and the general public that such programs are vital and necessary to our Nation, to local communities and regions, and for our people. Unless we take our case to the people and win their support, continued sound development and conservation of our water resources is in for some lean years -- and America will be the loser."

MANN APPOINTED TO NATIONAL WATER COMMISSION STAFF

The National Water Commission recently announced the appointment of Dean E. Mann as Chief of the Social and Behavioral Sciences Division. Dr. Mann came to the Commission from the University of California at Santa Barbara, where he was Professor of Political Science and had been Head of the Department.

KLEIN RESIGNS

Carl L. Klein, Assistant Secretary of the Interior for Water Quality and Research since February 1969, submitted his resignation to President Nixon effective October 18. This coincides with the proposed creation of the new Environmental Protection Agency.

It was reported that Mr. Klein was seeking the top job in the new EPA. On EPA's creation, Mr. Klein's Interior Department job will be left with only the saline water and water resources research programs.

NATIONAL IRRIGATION SYMPOSIUM

The National Irrigation Symposium will be held at the Nebraska Center for Continuing Education, Lincoln, Nebraska on November 10-13, 1970. For further information

contact Paul E. Fischbach, Extension Irrigationist, Agricultural Engineering, University of Nebraska, Lincoln, Nebraska 68503 or Bill Bowmaster, Nebraska Center for Continuing Education, Lincoln, Nebraska 68503.

WATER POLLUTION AND WATER QUALITY

In a recent issue of Environmental Health Letter, published by Gershon W. Fishbein, the question is asked, how long can we go on spending a billion dollars a year for construction of waste treatment facilities to control water pollution, primarily for industrial, recreational, aesthetic purposes, and only a paltry $2,300,000 to improve drinking water quality? Fishbein asked, "Doesn't man's drinking water rate anywhere near the same attention as the water fish swim in?"

Roy Bancroft of Nation's Cities Magazine said that it seems strange that we are spending something like 400 times as much money in preparing water for dumping as for drinking; it just doesn't seem to make sense.

Another interesting comment by Fishbein was that it would be easy to imagine the howl that would have come from conservation organizations if the conditions exposed by the drinking water quality report had applied to fish or wildlife.

CLOSED INDUSTRIAL WASTEWATER SYSTEMS

Walter J. Hickel, Secretary of the Interior, recently announced that 16 research and demonstration projects are currently being conducted under grants by Interior's Federal Water Quality Administration to find ways of ending industrial pollution by creating closed recycling systems for waste and water reuse. A total of $4,225,572 in grants has been awarded to support this $11,002,180 research effort. The remaining funds will be supplied by industry.

It is estimated that by 1972 techniques will be available to remove 85 per cent of industrial contaminants and to meet municipal pretreatment requirements for those municipalities that treat industrial waste. In the '80's it appears that techniques will be available for removal of 95 per cent of impurities in waste. In the mid '80's improved treatment could give many industries the capacity for ending water pollution.

47 RIVERS AS POTENTIAL WILD OR SCENIC STREAMS

Walter J. Hickel, Secretary of the Interior, and Clifford M. Hardin Secretary of Agriculture, have announced the joint identification of all or portions of forty-seven rivers in twenty-four states as potential additions to the Nations Wild & Scenic Rivers System.

The selections are based on statutory requirements of the Wild and Scenic Rivers Act of 1968 (Public Law 90-542).

The rivers announced are in addition to the eight rivers Congress designated as original components of the National Wild and Scenic Rivers System, the Allagash Wilderness Waterway, Maine, added to the System by the Secretary of the Interior, and the twenty-seven rivers listed for study in the Act.

COMMUNITY WATER SUPPLY STUDY RELEASED

In mid-August the Department of Health, Education, and Welfare released the long-awaited Community Water Supply Study. The study surveyed 969 public water systems in the state of Vermont and in eight standard metropolitan statistical areas which include: New York, New York; Charleston, West Virginia; Cincinnati, Ohio; Charleston, South Carolina; New Orleans, Lousiana; Kansas City, Missouri-Kansas; Pueblo, Colorado; and San Bernardino, Riverside, Ontario, California. The report says that drinking water quality defects and health risk problems, involving poor operating procedures, poor surveillance activites, and inadequate physical facilities, were found in both the large cities and the small towns irrespective of geographical location. On the average basis, 86 per cent of the approximately 18,000,000 people covered by this study, or about 15,500,000 served by 59 per cent of the 969 systems investigated, were receiving good water.

The study emphasizes the need for additional knowledge of the health effects of water-borne contaminants and says that such research is essential if we are to maintain at least the status quo for the current generation. Strongly emphasized is the necessity for a major attack on a host of synthetic organic chemicals which are growing at a rate of 500 new compounds per year.

OFFICE OF SALINE WATER ANNUAL REPORT

The 1969-70 annual report of the Office of Saline Water says that considerable progress toward reducing the production costs of fresh water from all desalting processes is being made. Walter J. Hickel, Secretary of the Interior, submitted the report saying: "Throughout the past decade ... the desalination program has moved from the laboratory into a significant level of activity encompassing field testing of desalting plants with capacities up to 2.6 million gallons-per-day." This report covers the 1969-70 research and engineering developments of the Office of Saline Water, including information on advancements of technology in the laboratory and at five OSW test sites in the U.S., and on desalting feasibility studies in various states.

Copies may be obtained by educational institutions, agencies of national, state, and municipal governments, and public libraries without charge from the Office of Saline Water, Department of the Interior, Washington, D. C. 20240. Others may purchase it from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 for $5.75.

NEW FEDERAL LEGISLATION ON MUNICIPAL WATER SUPPLIES

Rep. Howard W. Robison of New York announced that he has authored legislation to protect Americans from impure drinking water. Congressman Robison made his announcement at a news conference at the Cornell Water Resources & Marine Sciences Center in Ithaca.

Mr. Robison said his bill would set minimum Federal standards for drinking water with special emphasis on potentially dangerous chemicals, bacteria, and contaminants. The Congressman became aware of this

problem when the Federal Bureau of Water Hygiene's Community Water Supply Study recently revealed that hundreds of thousands of families in the test areas (including the State of Vermont, New York City, and seven other metropolitan areas) were being supplied with inferior or potentially dangerous drinking water.

The Robison bill would authorize $120 million, over a five-year period, to be used by the Administrator of the Environmental Protection Agency to initiate and accelerate a national research and development program for achieving consistently high quality drinking water throughout the nation.

The legislation would authorize the Administrator to:

--provide technical assistance to state and local governments in developing comprehensive water hygiene programs

--gather and disseminate data on water hygiene research

--improve methods and procedures to identify and measure the health effects of pesticides, organic chemicals, toxic metals, and other contaminants in drinking water

--improve the means of delivering safe water to all persons

--establish a National Water Hygiene Advisory Board to assist in the implementation of this new legislation.

Mr. Robison feels this legislation is mandatory now and referred directly to the Community Water Supply Study in which it was found that of those systems studied:

--41 percent were delivering water of inferior quality

--79 percent had not been inspected by state or county authorities in the past year; and in 50 percent of the systems the local authorities could not remember when such an inspection had been made.

"Even though most of the water of inferior quality was found in smaller communities," Mr. Robison continued, "large metropolitan areas are not immune to the impending crisis. For as the Community Water Supply Study concludes:

'The current Drinking Water Standards do little more than mention viruses, neglect numerious inorganic chemicals which are known to be toxic to man, and identify only one index that is supposed to cover the entire family of organic chemical compounds. These standards must be updated.'"

UNDERGROUND INJECTION OF WASTEWATERS

Questions concerning the safety and ultimate wisdom of waste disposal of deep-well injection are still unanswered. Those confronted with decisions in this area might do well to study the recent report of the Ohio River Valley Water Sanitation Commission entitled, "Perspective on the Regulation of Underground Injection of Wastewaters."

The eight states represented on the Ohio River Valley Water Sanitation Commission (ORSANCO) concluded it would be of mutual interest to appraise policies, procedures and other matters allied to the practice of subsurface disposal. The staff of ORSANCO was directed to develop a monograph that would offer perspective and guidlines on the regulation of underground injection of wastewaters.

The monograph is presented in two parts, each being individually authored. The first section provides

background on public policy issues associated with environmental factors and subsurface-resources stewardship, and it embraces consideration of legislative and legal aspects. Part two discusses administrative procedures, geological evaluation and technical criteria relating to injection-well practice, specifically with respect to circumstances in the Ohio Valley.

NEW GUIDELINES WILL PLACE GREATER EMPHASIS ON ALTERNATIVES

W. Don Maughan, executive director of the U.S. Water Resources Council, revealed that the proposed changes in governmental guidelines used in evaluating water resource projects will place "much greater emphasis on the formulation of alternative plans" as a method of resolving the growing conflict between "developers" and "conservationists" over the wisdom of many projects.

Dr. Marvin T. Edmison, head of the Oklahoma Water Resources Research Institute, said all future water projects must consider protection of the environment "if we are to insure the quality of life for our grandchildren that they deserve." Fred E. Morr, director of the Ohio Department of Natural Resources, said the strict benefit/cost criteria -- with its emphasis on economic efficiency -- has "serious limitations."

Marvin R. Springer of Dallas, founder of Marvin Springer and Associates, urban planning and area development consultants, described the wide range of recreational programs that can be incorporated into water projects such as the proposed Trinity River Waterway in Texas. Prof. Henry P. Caulfield, professor of political science at Colorado State University, warned that, despite the broadening of guidelines, government will continue to emphasize some analysis as to benefit and costs. Prof. Caulfield, who served as moderator of the discussion, said: "There is tremendous pressure to subject all government programs to this type analysis."

ENVIRONMENTAL QUALITY EDUCATION BILL PASSED

The Senate passed H. R. 18260 which authorizes establishment of educational programs to encourge understanding of policies and support of activities designed to preserve and enhance environmental quality and maintain ecological balance.

The Commissioner of Education would award grants and contracts to institutions of higher education and other public and private nonprofit agencies for research, demonstrations, operational programs, and pilot programs to educate the public on the problems of environmental quality and ecological balance under this measure. This includes: development of curriculums; dissemination of information about environmental education; preservice and inservice undergraduate and postgraduate training programs for educational personnel to prepare them to teach in areas related to environmental quality; and community education programs.

Authroizations of $6 million for fiscal 1972 and $10 million for each of the succeeding fiscal years through 1974 would be provided to carry out the provisions of the bill.

WASTES LINGER IN LONG ISLAND GROUND WATER

According to a report by the U.S. Geological Survey, Department of the Interior, plating wastes which were first deposited during World War II are still present in part of the shallow ground water of the South Farmingdale-Massapequa area of Long Island, New York.

The report reveals that potentially harmful concentrations of cadmium and chormium from the plating wastes now form a zone of polluted ground water about 4,300 feet long, up to 1,000 feet wide, and about 60 feet thick. The contaminated zone extends from several waste disposal basins at the site of a former aircraft plant in South Farmingdale to the head of Massapequa Creek, and includes about 195 million gallons of water.

A second phase of the study found that many samples of shallow ground water and water in Massapequa Creek contained exessive concentrations of detergents derived from cesspools and septic tanks. The study shows as much as 30 pounds of detergents are carried daily to Massapequa Pond by Massapequa Creek."

The report, "Dispersal of Plating Wastes and Sewage Contaminants in Ground Water and Surface Water, South Farmingdale-Massapequa Area, Nassau Count, New York" is published as USGS Water Supply Paper 1879-G. Copies may be purchased from the Superintendent of Documents, Government Printing Office, Washington, D.C. 20402 for $1.75 a copy.

RESEARCH REVIEW

Project Title: Hydrologic Models for Poorly Defined Drainage Areas

Principal Investigator: Dr. Warren Viessman, Jr.

Dates: July, 1970 to June, 1972

A central issue confronting state water resources planners and managers is that of determing the most effective policy to follow in solving significant water problems. A very useful aid in the decision making process can be a reliable working mathematical model of the system under consideration. The information obtained from such a model can often point out optimal or near-optimal decisions and the consequences of these decisions.

In central Nebraska and many other areas of the Midwest, complex water management problems often arise due to:

(1) the flat relief;

(2) large surface depressions;

(3) rising groundwater levels due to surface irrigation or canal seepage;

(4) intense summer storm activity; and

(5) poorly defined surface channels.

This research is designed to develop modeling techniques for such areas. These models could then be used to establish effective policy for overcoming drainage problems, determining joint groundwater-surface water irrigation schemes, and establishing flood control measures. The research is of regional and national significance. The results will be directly applicable to the state water resources planning program.

INTERDISCIPLINARY WATER RESOURCES SEMINAR

The Interdisciplinary Water Resources Seminar will again be offered during the 1971 Semester. The success of the past three Seminars and current inquires motivated this decision. The average attendance at past Seminars was 50 persons, an indication of the desirability of inter-departmental cooperation and the need for a Water Resources Seminar. The intent of this Seminar is to bring together upper classmen, graduate students, professional persons, faculty, and others interested in water topics.

The general theme will be the impact of various forms of water resources development on the ecosystem. General topics are outlined below. Speakers will be announced at the beginning of the 1971 Spring Semester.

To receive credit, students may enroll under their own departmental Seminar or special problems numbers. A short paper will be required.

The seminar is scheduled to be held from 4:00 - 5:00 p.m. on Mondays. The room will be announced later.

For further information contact:

Warren Viessman, Jr. - Extension 3307.

Donald Edwards - Extension 3181.

Deon Axthelm - Extension 2824.

PROGRAM FOR THE 1971
INTERDISCIPLINARY WATER
RESOURCES SEMINAR

WATER RESOURCES
DEVELOPMENT AND THE ECOSYSTEM

Feb. 1	Ecology & Change
Feb. 8	Ecology & Water - Historic
Feb. 15	Geomorphology
Feb. 22	Climate
March 1	Man's Impact on the Ecosystem through Water Resources Development
March 8	Pollution - Municipal & Industrial
March 15	Pollution - Agriculture
March 22	Eutrophication & Man
March 29	Ecologic Implication of Lakes & Reservoirs
April 5	Irrigations Systems
April 19	Recreation
April 26	Films and discussion on the Water Resources of Nebraska
May 3	
May 10	
May 17	

NEW PUBLICATIONS RECEIVED BY INSTITUTE - OCTOBER

1. "Forage Crop Irrigation With Oxidation Pond Effluent", J. B. Allen, J. C. McWhorther, Mississippi State University, July 1970.

2. "The Effect of Temperature On Water Flow in Soils", R. D. Jensen, M. Haridasan, & G. S. Rahi, Mississippi State University, June 1970.

3. "Jurisdictional Problems: A Barrier to the Implementation and Coordination of Water Policy", J. Blass, Mississippi State University, May 1969.

4. "The Importance of Water Related Activities At State Parks in Mississippi", D. C. Williams, Jr. D. L. Daniel, Mississippi State University, June 1970.

5. "Water Politics in Mississippi: A Comparative Analysis of Two Water Resource Development Organizations", A. R. Jones & H. M. McLeskey, Mississippi State University, 1969.

6. "The Effect of Salinity on the Oxidation of Hydrocarbons in Estuarine Environments", L. R. Brown, W. E. Phillips, Jr., J. M. Tennyson, Mississippi State University, 1970.

7. "A Study of the Hydrochemical Facies of the Wilcox Aquifers in Mississippi", D. M. Keady, Mississippi State University, 1970.

8. "A System Approach for the Study and Control of Factors Affecting Water Pollution", Abdel-Razek A. Abouel-Nour, Mississippi State University, July 1970.

9. "The Economic Feasibility of Constructing and Operating a Container Handling Facility for the Port of Gulfport, Mississippi", G. T. Peden, Jr., D. M. Mayberry, Mississippi State University, 1969.

10. "A Study of the Aquatic Ecosystems in Two National Waterfowl Refuges in Mississippi", D. H. Arner, E. D. Norwood, Jr., B. M. Teels, Mississippi State University, 1970.

11. "Streamflow Characteristics of the Northeastern United States", W. E. Sopper and H. W. Lull, Pennsylvania State University, June 1970.

12. "Treatment of Waste Water-Waste Oil Mixtures", Federal Water Pollution Control Administration, U.S. Department of the Interior, May 1970.

13. "Cultural Eutrophication of Maine Lakes", University of Maine, September 1970.

14. "Optimal Operation of Water-Supply Systems", G. S. Clausen, University of Arizona, June 1970.

15. "The Interrelation of Carbon and Phosphorous in Regulating Heterotrophic and Autotrophic Populations in Aquatic Ecosystems", P. C. Kerr, D. F. Paris, D. L. Brockway, U. S. Department of the Interior, Federal Water Quality Administration.

16. "Annual Report FY 1970 Accomplishments and Program", the Hydrologic Engineering Center, Corps of Engineers, U. S. Army, 1970.

17. "Water Resources Data for Nebraska: Part 2. Water Quality Records", United States Department of the Interior, Geological Survey, 1968.

18. "Water Law's Double Environment: How Water Law Doctrines Impede The Attainment of Environmental Enhancement Goals", J. C. Ohrenschall, Edgar A. Imhoff, University of Wyoming, 1970.

19. "Water As An Urban Resource and Nuisance", H. E. Thomas & W. J. Schneider, Geological Survey Circular, Washington, 1970.

20. "Flood-Hazard Mapping In Metropolitan Chicago", J. R. Sheaffer D. W. Ellis & A. M. Spieker, Geological Survey Circular, Washington, 1970.

21. "Urban Sprawl and Flooding in Southern California", S. E. Rantz, Geological Survey Circular, Washington, 1970.

22. "Water for the Cities -- The Outlook", W. J. Schneider, A. M. Spieker, Geological Survey Circular, Washington, 1969.

23. "Model Test Results of Cirular, Square, and Rectangular Forms of Drop-Inlet Entrance to Closed-Conduit Spillways", H. W. Humphreys, G. Sigurdsson, H. J. Owen, Illinois State Water Survey, 1970.

24. "Annual Report FY 1970 -- Missouri River Basin Progress Report", Interior Missouri Basin Field Committee, Department of the Interior, FY 1970.

25. "Rotary Vibratory Fine Screening of Combined Sewer Overflows", Department of the Interior, Federal Water Quality Administration, March 1970.

26. "Water Resources Data for Nebraska - Surface Water Records Part 1.", United States Department of the Interior, Geological Survey, 1969.

27. "Sixth Annual Report ", Cornell University, Office of Water Resources Research, July 1970.

28. "Effect of Sulfate and Other Ions in Coagulation With Aluminum (III)", G. P. Hanna, Jr., A. J. Rubin, Reprinted from Journal American Water Works Association, May 1970.

29. "Proposed Combined Sewer Control by Electrode Potential", U. S. Department of the Interior, Federal Water Quality Administration, Merrimack College, February 1970.

30. "Research Reports", U. S. Department of the Interior, Washington D.C., July - September 1970.

NEWSLETTER ITEMS

Newsletter items and inquires should be sent to: Dr. Warren Viessman, Jr., Director, N.W.R.R.I., 212 Agricultural Engineering Building, East Campus, Lincoln, Nebraska 68503.